

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/052820

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 C08F4/70 C08F110/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C08F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PINHEIRO M F ET AL: "BIPHASIC ETHYLENE POLYMERIZATION WITH A DIIMINENICKEL CATALYST" MACROMOLECULAR: RAPID COMMUNICATIONS, WILEY VCH, WEINHEIM, DE, vol. 22, no. 6, 5 April 2001 (2001-04-05), pages 425-428, XP001038811 ISSN: 1022-1336 the whole document ----- -/--	1-12

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
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- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

24 June 2005

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05/07/2005

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MCGUINNESS, DAVID S. ET AL: "Nickel(II) Heterocyclic Carbene Complexes as Catalysts for Olefin Dimerization in an Imidazolium Chloroaluminate Ionic Liquid" ORGANOMETALLICS, 21(1), 175-181 CODEN: ORGND7; ISSN: 0276-7333, 2002, XP002284541 example 5; table 3 * exemple NiCl <sub>2</sub> (PCy <sub>3</sub> ) <sub>2</sub> ; tableau 4 * page 180, left-hand column, paragraph 1 -----	1,2,5,6, 9-12
X	CHAUVIN Y ET AL: "Oligomerization of n-Butenes Catalyzed by Nickel Complexes Dissolved in Organochloroaluminate Ionic Liquids" JOURNAL OF CATALYSIS, ACADEMIC PRESS, DULUTH, MN, US, vol. 165, no. 2, 15 January 1997 (1997-01-15), pages 275-278, XP004459645 ISSN: 0021-9517 the whole document -----	1,2,5,6, 9-12
X	CHAUVIN Y ET AL: "Catalytic Dimerization of Propene by Nickel-Phosphine Complexes in 1-Butyl-3-methylimidazolium Chloride/AlEt <sub>x</sub> Cl <sub>3-x</sub> (x=0,1) Ionic Liquids" INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, AMERICAN CHEMICAL SOCIETY. WASHINGTON, US, vol. 34, 1995, pages 1149-1155, XP002279102 ISSN: 0888-5885 tables 3-7 -----	1,2,5,6, 9-12
X	EP 1 138 388 A (INST FRANCAIS DU PETROL) 4 October 2001 (2001-10-04) examples 1-4,7,10-12 -----	1,2,4-6, 9-12
Y	claims 1-4,8,12,16-18,21-23,25,27 -----	1-12
Y	FR 2 611 700 A (INST FRANCAIS DU PETROL) 9 September 1988 (1988-09-09) example 1 claims 1,4,8 -----	1-12
A	WO 01/81436 A (EQUISTAR CHEM LP) 1 November 2001 (2001-11-01) example 1 claims 1-4,6,9-14 -----	1-12

## INTERNATIONAL SEARCH REPORT

Information on patent family members

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